

R E M A R K S

Priority Under 35 USC 119

The Examiner is thanked for acknowledging applicants' claim for priority under 35 USC 119.

With respect to item no. 12 a) on page 1 of the Office Action and item no. 2, the Examiner is respectfully requested to acknowledge receipt of the certified copy of applicants' priority application for the following reasons.

This application is a U.S. national phase application under 35 USC 371 of International application PCT/JP2006/300460. The International Bureau of WIPO provided a certified copy of the priority document to the USPTO. This is evidenced by the fact that a receipt of the priority document by the USPTO is indicated in the NOTICE OF ACCEPTANCE OF APPLICATION UNDER 35 U.S.C. 371 AND 37 CFR 1.495 dated August 13, 20098.

Furthermore, submitted concomitantly herewith is a copy of applicants' priority document that was obtained from the WIPO website.

Moreover, as of March 30, 2009, a certified copy of the priority document is now in the Image File History on the USPTO website for the above-identified application.

Specification

In item no. 4 on page 2 of the Office Action, it was stated that numerous trademarks appear in the specification. It was

stated in the Office Action that each trademark should be capitalized and be accompanied by generic terminology.

The specification was amended hereinabove to capitalize all the trademarks that were not previously capitalized.

The specification was also amended to correct clerical errors.

Submitted concomitantly herewith is a corrected English-language translation of International application PCT/JP2006/300460, wherein the following corrections were made: page 7, penultimate line and page 21, line 1, "Vixtanex" was replaced with --Vistanex--; and page 12, line 7, "TPF" was replaced with --TPP--.

The following are applicants' comments concerning the generic terminology for each of the trademarks set forth in the specification:

(1) "SIBSTER 102T" on page 6, line 20 of the specification is set forth as "An example of a styrene-isobutylene block copolymer product is SIBSTER 102T manufactured by Kaneka Corp. Thus, the generic terminology for "SIBSTER 102T" is a "styrene-isobutylene block copolymer."

(2) "Milastomer" on page 7, line 22 of the specification is set forth as "Examples of commercially available products of olefin thermoplastic elastomers which include, but are not limited to, Milastomer manufactured by Mitsui Chemicals, Inc." Enclosed herewith is a publication which shows that "MILASTOMER" is "an olefin thermoplastic elastomer" (see Appendix 1). Thus,

the generic terminology for "MILASTOMER" is a "olefin thermoplastic elastomer."

(3) "Butyl 065" on page 7, line 29 of the specification is set forth as "Examples of commercially available butyl rubber products which include, but are not limited to, "Butyl 065 manufactured by JSR Corporation." Enclosed herewith is a publication which shows that "BUTYL 065" is "butyl rubber" (see Appendix 2). Thus, the generic terminology for "BUTYL 065" is "butyl rubber."

(4) "Vixtanex" on page 7, line 35 and "Vixtanex MML80" on page 21, line 1 of the specification are set forth as "Examples of commercially available polyisobutylene products which include, but are not limited to, "Vixtanex manufactured by ExxonMobil Chemical" and "Polyisobutylene: ExxonMobil Chemical, Vixtanex MML80." Thus, the generic terminology for "Vixtanex" and "Vixtanex MML80" is a "polyisobutylene." "Vixtanex" in the specification should have read as "Vistanex." Enclosed herewith is a publication which shows that polyisobutylene from Exxon Mobile Chemical is "VISTANEX" (see Appendix 3). The specification was amended hereinabove to replace "Vixtanex" with "VISTANEX" (also see the corrected English-language translation of PCT/JP2006/300460).

(5) "Pine Crystal KE100, KE311, Ester Gum H, HP, Pentalin H, Forall 85 and Forall 105" on page 8 lines 16 to 18 of the specification are set forth as "Examples of commercially

available products of tackifying resins include, but are not limited to, Pine Crystal KE100 (hydrogenated rosin ester resin), KE311, Ester Gum H or HP manufactured by Arakawa Chemical Industries, Ltd., Pentalin H, Forall 85 or Forall 105 manufactured by Rika Hercules." Thus, the generic terminology for each of "PINE CRYSTAL," "KE100," "KE311," "ESTER GUM," "H," "HP," "PENTALIN H," "FORALL 85" and "FORALL 105" is a "hydrogenated rosin ester resin."

(6) "Nisseki Hisol SAS" on page 9, line 10 of the specification is set forth as "examples of commercially available products of oils used as a softening agent include Nisseki Hisol SAS manufactured by Nippon Petrochemicals." Enclosed herewith is a publication which shows that "NISSEKI HISOL SAS" is "oil" (see Appendix 4), since it is the common technical knowledge that a liquid aromatic hydrocarbon polymerization is an oil and is used as a softening agent. Thus, the generic terminology for "NISSEKI HISOL SAS" is an "oil."

(7) "125° Paraffin" on page 9, line 15 of the specification is set forth as "examples of commercially available products of paraffin waxes used as a softening agent which include 125° Paraffin manufactured by Nippon Petrochemicals Company," Thus, the generic terminology for "125° PARAFFIN" is a "paraffin wax."

(8) "Idemitsu Polybutene" and "Nisseki Polybutene HV100 or HV300" on page 9 lines 22 and 23 of the specification are set forth as "examples of commercially available products of low

molecular weight polybutenes used as softening agents include Idemitsu Polybutene manufactured by Idemitsu Kosan Co., Ltd., Nisseki Polybutene HV100 or HV300 manufactured by Nippon Petrochemicals." Enclosed herewith is a publication which shows that "NISSEKI POLYBUTENE HV100 or HV300" is "polybutene" (see Appendix 5). Thus the generic terminology for "IDEMITSU POLYBUTENE" and "NISSEKI POLYBUTENE HV100 or HV300" is a "polybutene".

(9) "Kuraprene LIR" on page 9, line 30 of the specification is set forth as "The low molecular weight polyisoprene" used as a softening agent refers to a liquid polyisoprene that is an isoprene polymer having a molecular weight of about several thousands to 60,000 and examples of commercially available products of low molecular weight isoprenes used as a softening agent include Kuraprene LIR manufactured by Kuraray Co., Ltd." Enclosed herewith is a publication which shows that "KURAPRENE LIR" is a "polyisoprene" (see Appendix 6-1 and Appendix 6-2). Thus, the generic terminology for "KURAPRENE LIR" is "polyisoprene."

(10) "Tetrax 3T" on page 10, line 1 of the specification is set forth as "examples of commercially available products of low molecular weight polyisobutylenes used as a softening agent include Tetrax 3T manufactured by Nippon Petrochemicals." Thus, the generic terminology for "TETRAX" is "polyisobutylene."

(11) "Idemitsu Poly- α -Olefin" and "APAO" on page 10, lines 7 and 8 of the specification are set forth as "examples of low molecular weight poly- α -olefins used as a softening agent include Idemitsu Poly- α -Olefin manufactured by Idemitsu Kosan, APAO manufactured by Ube Industries, Ltd." Thus, the generic terminology for each of "IDEMITSU POLY- α -OLEFIN" and "APAO" is a "poly- α -olefin."

(12) "Kraton G1657" on page 10, line 35 of the specification, is set forth as "Examples of the styrene block copolymer used in the present invention (molecular weight: 10,000 to 1,000,000) include styrene-isoprene-styrene block copolymers (SIS), styrene-butadiene-styrene block copolymers (SBS), styrene-ethylenebutylene-styrene block copolymers (SEBS), styrene-ethylenepropylene-styrene block copolymers (SEPS), etc., and commercially available products of styrene block copolymers include, but are not limited to, Kraton G1657 manufactured by Kraton Polymer Japan". Enclosed herewith is a publication which shows that "KRATON G1657" is a "styrene-ethylenebutylene-styrene block copolymers (SEBS)" (see Appendix 7). Thus, the generic terminology for "Kraton G1657" is "a styrene-ethylenebutylene-styrene block copolymer (SEBS)".

(13) "Dynalon 1320P" on page 11, line 7 and page 22, lines 8 to 9 of the specification, is set forth as "Examples of the styrene random copolymer used in the present invention include styrene-butadiene rubber (SBR) and so forth, and examples of commercially available products of styrene random copolymers

include, but are not limited to, Dynalon 1320P manufactured by JSR" and "Styrene random copolymer (HSBR): JSR, Dynalon 1320P, MFR = 0.6 g/10 min". Enclosed herewith is a publication which shows that "DYNALON 1320P" is a "hydrogenated styrene-butadiene rubber (HSBR)" (see Appendix 8). Thus, the generic terminology for "DYNALON 1320P" is a "hydrogenated styrene-butadiene rubber (HSBR)".

(14) "Antage W500, W400, W300, BHT, SP, DBH, DHA or Crystal" and "Sumilizer TPL or TPF" on page 12, lines 4 to 5 and 7 and page 16, line 18 of the specification, are set forth as "Examples of commercially available products of antioxidants include, but are not limited to, Antage W500, W400, W300, BHT, SP, DBH, DHA or Crystal manufactured by Kawaguchi Chemical Industry Co., LTD, Sumilizer TPL or TPF manufactured by Sumitomo Chemical Co., Ltd." and "Phenol antioxidant, Antage W500". Enclosed herewith is a publication which shows that "ANTAGE W500," "W400," "W300," "BHT," "SP," "DBH," "DAH" or "CRYSTAL" are "phenol antioxidants" (see Appendix 9). The term "DHA" is a typing error. Correctly, "DHA" means "DAH" as shown in the enclosed Appendix 9. "TPF" is a typing error. Correctly, "TPF" means "TPP". Thus, the generic terminology for each of "ANTAGE W500," "W400," "W300," "BHT," "SP," "DBH," "DAH" or "CRYSTAL", "SUMILIZER" and "TPL or TPF" are an "antioxidant", particularly a "phenol system antioxidant". Enclosed herewith is a copy of a page (in Japanese) describing "SUMILIZER TPL or TPP" (WO 2008/087720, Appendix 10). The specification was amended hereinabove to replace "DHA" and "TPF" to read "DAH" and "TPP", respectively (with respect to the

correction of "TPP", see the corrected English-language translation of PCT/JP2006/300460).

(15) "Tinuvin P" on page 12, line 30, and page 16, lines 20 to 21 of the specification is set forth as "Examples of commercially available products of ultraviolet absorbers include, but are not limited to, Tinuvin P manufactured by Ciba Specialty Chemicals" and "Benzotriazole ultraviolet Absorber, Tinuvin P". Thus, the generic terminology for "TINUVIN P" is an "ultraviolet absorber", particularly a "benzotriazole system ultraviolet absorber".

(16) "Electrostripper " on page 13, line 27 of the specification is set forth as "Examples of commercially available products of antistatic agents include, but are not limited to, Electrostripper manufactured by Kao Corp." Enclosed herewith is a copy of USP 5,110,639, which describes that "ELECTROSTRIPPER" is a non-ionic surfactant lubricant and antistatic agent (see Appendix 11). Thus, the generic terminology for "ELECTROSTRIPPER" is an "antistatic agent".

(17) "Molplen 440G " on page 17, line 1 in the specification is set forth as "polypropylene manufactured by Basell (Molplen 440Gy MFR = 1.3 g/10 min (230°C, 2.16 kg)" Thus, the generic terminology for "MOLPLEN 440G" is a "polypropylene".

(18) "EMB2011P " on page 17, line 2 of the specification is set forth as "EMB2011P ethylene-butene rubber manufactured by

JSR" Thus, the generic terminology for "EMB2011P" is a "ethylene-butene rubber".

(19) "Tipaque A220" on page 19, line 23 of the specification is set forth as "titanium oxide manufactured by Ishihara Sangyo Co., Ltd. "TIPAQUE A220)". Thus, the generic terminology for "TIPAQUE A220" is a "titanium oxide".

(20) "J-452HP" on page 18, line 25 of the specification is set forth as "polypropylene (Idemitsu Petrochemical, J-452HP," Thus, the generic terminology for "J-452HP" is a "polypropylene".

(21) "Septon 2063" on page 20, line 2 in the specification, is set forth as "SEPS (styrene block copolymer, Kuraray, SEPTON 2063". Thus, the generic terminology for "SEPTON 2063 is a "styrene-ethylenepropylene-styrene block copolymer (SEPS)."

(22) "Quintac 3421C" on page 22, lines 26 to 27 of the specification is set forth as "SIS (styrene-isoprene-styrene block copolymer, Zeon Corp., Quintac 3421C)". Thus, the generic terminology for "QUINTAC 3421C" is understood as "styrene-isoprene-styrene block copolymer (SIS)".

(23) Enclosed herewith is a summary list for all the aforesaid trademarks (Appendix 12).

Abstract

Regarding items 6 to 8 on page 3 of the Office Action, the Abstract was amended hereinabove.

Rejection Under 35 USC 112, Second Paragraph

Claim 7 was rejected under 35 USC 112, second paragraph, for the reasons set forth in item nos. 11 to 14 on pages 3 to 4 of the Office Action.

The terminology of "(HALS)" was deleted from claim 7, line 5.

Withdrawal of the 35 USC 112, second paragraph rejection is respectfully requested.

Obviousness Rejections Under 35 USC 103

Claims 1 to 4 and 6 and 7 were rejected under 35 USC 103 as being unpatentable over JP 2000-160121 to Kitayama et al. in view of JP H09-176581 to Ooshima et al. for the reasons stated in item nos. 18 to 33 on pages 5 to 9 of the Office Action.

It was admitted in item no. 24 at the bottom of page 6 of the Office Action that Kitayama et al. do not specify how much softener should be added.

Regarding applicants' claim 4, it was admitted in item no. 27 near the bottom of page 7 of the Office Action that Kitayama et al. in view of Ooshima et al. do not teach that the melt flowrate of the pressure-sensitive adhesive is 0.5 to 300 g/10 min. at 190°C and 2.16 kg.

Regarding applicants' claim 6, it was admitted in the Office Action that Kitayama et al. do not teach the addition of

softening agents selected from the group consisting of oil, paraffin wax, polyisobutylene and low molecular weight poly- α -olefin.

Enclosed herewith is an English-language translation of Table 1 of JP 2000-160121 (Kitayama et al.) (see Appendix 13). Table 1 of JP 2000-160121 discloses that Examples 1 and 2 are each an adhesive composition containing a styrene system block copolymer (see Note 1 in Appendix 13) and a random copolymer 1. Note 1 in Appendix 13 discloses that the styrene system block copolymer is SEPTON 2063 (trade name, manufactured by Kuraray Co. Ltd; a hydrogen additive of a block copolymer consisting of styrene and isoprene). It was discussed hereinabove in conjunction with the discussion of the trademarks in the specification that SEPTON 2063 (a hydrogen additive of a block copolymer consisting of styrene and isoprene) is a styrene-ethylene-propylene-styrene block copolymer (SEPS). Thus, JP 2000-160121 disclose an adhesive composition containing a styrene-ethylene-propylene-styrene block copolymer (SEPS).

In contrast to JP 2000-160121, the presently claimed invention relates to a surface protective sheet having a pressure-sensitive adhesive layer comprising styrene-isobutylene block copolymer. Thus, the present invention of claims 1 and 2 are novel over JP 2000-160121 (Kitayama et al.,) since a styrene-isobutylene block copolymer is different from a styrene-ethylene-propylene-styrene block copolymer (SEPS).

JP 2000-160121 (Kitayama et al.) discloses an aromatic vinyl compound and isobutylene as a styrene system block copolymer in paragraph [0007] and styrene, alpha-methylstyrene, p-

methylstyrene, vinyl naphthalene, p-chloromethylstyrene, etc., as said aromatic vinyl compound in paragraph [0008]. However, JP 2000-160121 neither discloses concretely nor specifies a styrene-isobutylene block copolymer as recited in applicants' present claims. Thus, it is respectfully submitted that applicants' present claims are novel over JP 2000-160121 (Kitayama et al.).

The presently claimed invention has unexpected advantageous properties compared to JP 2000-160121 (Kitayama et al.). Namely, in the present specification, SEPTON 2063 (SEPS) is used in Comparative Example 1 (see Table 1 on pages 25 to 27 of the present specification). With respect to Comparative Example 1, see the following statement on page 28, lines 17 to 22 of the present specification:

"On the other hand, the pressure-sensitive adhesive sheet that used SEPS (styrene block copolymer) in Comparative Example 1 demonstrated a large increase in high-speed peel strength for a coated film after heating as well as inferior ease of peeling work, and thereby was unsuitable as a surface protective sheet."

High-speed peel strength for a coated film after heating is an important property of the presently claimed invention. It is stated in the present specification that the present invention has a small increase in high-speed peel strength for a coated film after heating (see page 28, lines 5 to 6 and lines 12 to 14). Table 1 in applicants' specification shows that the high-speed peel strength for a coated film (N/15mm) is 4.4 for Comp. Ex. 1 versus 1.3 to 2.5 for Ex. 1 to 6.

Additionally, a styrene-isoprene block copolymer (SIS) is used in Comparative Example 7 (see the aforesaid Table 1 in applicants' specification). With respect to a styrene-isoprene block copolymer, the following is stated on page 29, lines 11 to 18 of the present specification:

"The pressure-sensitive sheet of Comparative Example 7 that used SIS (styrene-isoprene-styrene block copolymer) as diene block polymer was observed to have residual pressure-sensitive adhesive on the coated film after peeling in the evaluation of ease of peeling work. On the other hand, there were no problems such as residual pressure-sensitive adhesive in the pressure-sensitive adhesive sheet of Example 3 that used SIBS"

The aforesaid Table 1 shows that Comparative Example 7 has a large high-speed peel strength for a coated film after heating, namely the high-speed peel strength for a coated film (N/15mm) of Comp. Ex. 7 is 4.

These advantageous properties of the presently claimed invention are not disclosed or suggested by JP 2000-160121 (Kitayama et al.). It is respectfully submitted that a person having ordinary skill in the art would not expect to obtain these advantageous properties of the presently claimed invention based on the disclosure of JP 2000-160121 (Kitayama et al.).

JP H09-176581 (Ooshima et al.) discloses an adhesive tape having an adhesive layer containing SIS (styrene-isoprene-styrene block copolymer) (in Examples 1 to 3) and in the disclosure of the softeners in the paragraphs [0017] and [0018],

wherein SIS corresponds to Comparative Example 7 as discussed above.

JP H09-176581 (Ooshima et al.) do not teach or suggest a styrene-isobutylene block copolymer and the advantageous properties of the presently claimed invention as discussed above.

Thus, it is respectfully submitted that a person of ordinary skill in the art would not expect to obtain the advantageous properties of the presently claimed invention, even if JP 2000-160121 (Kitayama et al.,) is combined with JP H09-176581 (Ooshima et al.).

Accordingly, it is respectfully submitted that applicants' present claims 1 and 2 are novel over JP 2000-160121 (Kitayama et al.) and are not obvious over JP 2000-160121 (Kitayama et al.) in view of JP H09-176581 (Ooshima et al.).

Applicants' claim 3 depends on claim 2, and applicants' claims 4, 6 and depend to any one of claims 1 to 3. Thus, it is respectfully submitted that applicants' claims 3, 4, 6 and 7 also are not obvious over JP 2000-160121 (Kitayama et al.) in view of JP H09-176581 (Ooshima et al.).

Claim 5 was rejected under 35 USC 103 as being unpatentable over JP 2000-160121 to Kitayama et al. in view of JP H09-176581 to Ooshima et al. and further in view of EP 0955346 to Ichimura et al. for the reasons indicated in item nos. 34 to 39 on pages 9 to 11 of the Office Action.

The undersigned had a telephone interview with the Examiner on January 12, 2009, wherein the Examiner said that he intended to include claims 6 to 8 in the above rejection. Thus, item 34

on page 9 of the Office Action was intended to read as follows:
"Claims 5 to 8 are rejected...."

It was admitted in item no. 35 near the bottom of page 9 of the Office Action that regarding claim 5, Kitayama et al. in view of Ooshima et al. does not specifically teach that the tackifying resin is composed of hydrogenated rosin ester resin.

It was admitted in item no. 38 at the bottom of page 10 of the Office Action that regarding claim 7, Kitayama et al. in view of Ooshima et al. does not teach the addition of an antioxidant, an ultraviolet absorber, an ultraviolet stabilizer, an antistatic agent or a lubricant to the pressure-sensitive adhesive.

Applicants' claims 5 to 8 depend on any one of claims 1 to 3.

As discussed hereinabove, it is respectfully submitted that applicants' present claims 1 to 3 are not obvious over JP 2000-160121 (Kitayama et al.) in view of JP H09-176581 (Ooshima et al.).

EP0955346 (Ichimura et al.,) discloses a tackifier which is a rosin ester resin, a hydrogenated rosin, an ester resin, and a softening agent of oil or paraffin wax. However, EP 0955346 (Ichimura et al.,) do not disclose or suggest a styrene-isobutylene block copolymer and the advantageous properties of the presently claimed invention as discussed hereinabove.

Thus, it is respectfully submitted that a person of ordinary skill in the art would not expect the advantageous properties of the presently claimed invention, even if JP 2000-160121 (Kitayama et al.) is combined with JP H09-176581 (Ooshima et al.) and further combined with EP0955346 (Ichimura et al.).

Accordingly, it is respectfully submitted that applicants' present claims 5 to 8 are not obvious over JP 2000-160121 (Kitayama et al.) in view of JP H09-176581 (Ooshima et al.) and EP 0955346 (Ichimura et al.).

Withdrawal of each rejection under 35 USC 103 is therefore respectfully requested.

Reconsideration is requested. Allowance is solicited.

If the Examiner has any questions, comments, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



RICHARD S. BARTH
REG. NO. 28,180

FRISHAUF, HOLTZ, GOODMAN & CHICK, P.C.
220 FIFTH AVENUE, 16th FLOOR
NEW YORK, NEW YORK 10001-7708
Tel. Nos. (212) 319-4900
(212) 319-4551/Ext. 219
Fax No. (212) 319-5101
E-Mail Address: BARTH@FHGC-LAW.COM
RSB/ddf

Encs.: (1) copy of a publication entitled "Driving a revolution in the automobile industry with recyclable new materials," MITSUI CHEMICALS, INC., (see Appendix 1)
(2) copy of "High Styrene Rubber/HSR" (see Appendix 2)

- (3) copy of a publication entitled "BASF AG requires Exxon-vistanex Polyisobutylene from Exxon Mobil Corp." (see Appendix 3)
- (4) copy of a publication which shows that "NISSEKI HISOL SAS" is "oil" (see Appendix 4)
- (5) copy of a publication which shows that "NISSEKI POLYBUTENE HV100 or HV300" is "polybutene" (see Appendix 5)
- (6) copy of publications which show that "KURAPRENE LIR" is a "polyisoprene" (see Appendix 6-1 and Appendix 6-2)
- (7) copy of a publication which shows that "KRATON G1657" is a "styrene-ethylenebutylene-styrene block copolymers (SEBS)" (see Appendix 7)
- (8) copy of a publication which shows that "DYNALON 1320P" is a "hydrogenated styrene-butadiene rubber (HSBR)" (see Appendix 8)
- (9) copy of a publication which shows that "ANTAGE W500," "W400," "W300," "BHT," "SP," "DBH," "DAH" or "CRYSTAL" are "phenol antioxidants" (see Appendix 9)
- (10) copy of a page (in Japanese) describing "SUMILIZER TPL or TPP" (WO 2008/087720, Appendix 10)
- (11) copy of USP 5,110,639, which describes that "ELECTROSTRIPPER" is a non-ionic surfactant lubricant and antistatic agent (see Appendix 11)
- (12) a summary list for all the aforesaid trademarks (Appendix 12)

Appendix 12

Trade name	Specification	Maker	Generic terminology
SIBSTER102T	P6 L20	Kaneka Corp.	styrene-isobutylene block copolymer
Milastomer	P7 L22	Mitui Chemicals Inc.	olefin thermoplastic elastomer
Btyl 065	P7 L29	JSR	butyl rubber
Vixtanex	P7 L35	ExxonMobil	polyisobutylene
Pine Crystal KE100	P8 L16-17	Arakawa Chemical	hydrogenated rosin ester resin
Pine Crystal KE311	P8 L17	Arakawa Chemical	hydrogenated rosin ester resin
Ester Gum H	P8 L18	Arakawa Chemical	hydrogenated rosin ester resin
Ester Gum HP	P8 L18	Arakawa Chemical	hydrogenated rosin ester resin
Pentalin H	P8 L19	Rika Hercules	hydrogenated rosin ester resin
Forall 85	P8 L19	Rika Hercules	hydrogenated rosin ester resin
Forall 105	P8 L19	Rika Hercules	hydrogenated rosin ester resin
Nisseki Hisol SAS	P9 L10	Nippon Petrochemicals	oil

125° Paraffin	P9 L15	Nippon Petrochemicals	Paraffin wax
Idemitsu Polybutene	P9 L22	Idemitsu Kosan Co. Ltd.	polybutene
Nisseki Polybutene HV100	P9 L23	Nippon Petrochemicals	polybutene
Nisseki Polybutene HV300	P9 L23	Nippon Petrochemicals	polybutene
Kuraprene LIR	P9 L30	Kuraray Co.LTD	polyisoprene
Tetrax 3T	P10 L1	Nippon Petrochemicals	polyisobutylene
Idemitsu Poly- α -Olefin	P10 L7	Idemitsu Kosan Co. Ltd.	poly- α -olefin
APAO	P10 L8	Ube Industries LTD	poly- α -olefin
Kraton G1657	P10 L35	Kraton Polymer Japan	styrene-ethylene/butylene block copolymer
Dynalox 1320P	P11 L7	JSR	hydrogenated styrene butadiene rubber
Antage W500	P12 L4-5	Kawaguti Chemical Industry Co.LTD	antioxidant
Antage W400	P12 L5	Kawaguti Chemical Industry Co.LTD	antioxidant
Antage W300	P12 L5	Kawaguti Chemical Industry Co.LTD	antioxidant
Antage BHT	P12 L5	Kawaguti Chemical Industry Co.LTD	antioxidant

Antage SP	P12 L5	Kawaguti Chemical Industry Co.LTD	antioxidant
Antage DBH	P12 L5	Kawaguti Chemical Industry Co.LTD	antioxidant
Antage DHA	P12 L5	Kawaguti Chemical Industry Co.LTD	antioxidant
Antage Crystal	P12 L5	Kawaguti Chemical Industry Co.LTD	antioxidant
Sumilizer TPL	P12 L7	Sumitomo Chemical Co.	antioxidant
Sumilizer TPF	P12 L7	Sumitomo Chemical Co.	antioxidant
Tinuvin P	P12 L30	Ciba Specialty Chemicals	ultraviolet absorber
Electrostripper	P13 L27	Kao Corp.	antistatic agent
SIBSTER102T	P16 L10	Kaneka Corp.	styrene-isobutylene block copolymer
Pine Crystal KE100	P16 L14	Arakawa Chemical	hydrogenated rosin ester resin
Nisseki Polybutene HV300	P16 L16	Nippon Petrochemicals	polybutene
Antage W500	P16 L18	Kawaguti Chemical Industry Co.LTD	antioxidant
Tinuvin P	P16 L21	Ciba Specialty Chemicals	ultraviolet absorber
Molplen 440G	P17 L1	Basell	polypropylene

EMB2011P	P17 L2	JSR	ethylene-butene rubber
Tipaque A220	P17 L4	Ishihara Sangyo Co.ltd	titanium oxide
SIBSTER102T	P17 L18	Kaneka Corp.	styrene-isobutylene block copolymer
Nisseki Polybutene HV300	P17 L20	Nippon Petrochemicals	polybutene
Antage W500	P17 L22	Kawaguti Chemical Industry Co.LTD	antioxidant
Tinuvin P	P17 L24	Ciba Specialty Chemicals	ultraviolet absorber
SIBSTER102T	P17 L32	Kaneka Corp.	styrene-isobutylene block copolymer
Nisseki Polybutene HV300	P17 L36	Nippon Petrochemicals	polybutene
Antage W500	P18 L2	Kawaguti Chemical Industry Co.LTD	antioxidant
Tinuvin P	P18 L4	Ciba Specialty Chemicals	ultraviolet absorber
J-452HP	P18 L25	Idemitsu Petrochemical (Prime Polymer Co.LTD)	polypropylene
EMB2011P	P18 L26	JSR	ethylene-butene rubber
Tipaque A220	P18 L27	Ishihara Sangyo Co.ltd	titanium oxide
SIBSTER102T	P19 L3	Kaneka Corp.	styrene-isobutylene block copolymer

Dynalon 1320P	P19 L5	JSR	hydrogenated styrene butadien rubber
Pine Crystal KE100	P19 L7	Arakawa Chemical	hydrogenated rosin ester resin
Nisseki Polybutene HV300	P19 L9	Nippon Petrochemicals	polybutene
Antage W500	P19 L11	Kawaguti Chemical Industry Co.LTD	antioxidant
Septon 2063	P20 L2	Kuraray Co.LTD	styrene-ethylene/propylene-styrene
J-452HP	P20 L12	Idemitsu Petrochemical (Prime Polymer Co.LTD)	polypropylene
EMB2011P	P20 L12	JSR	ethylene-butene rubber
Tipaque A220	P20 L14	Ishihara Sangyo Co.ltd	titanium oxide
SIBSTER102T	P20 L19	Kaneka Corp.	styrene-isobutylene block copolymer
Pine Crystal KE100	P20 L21	Arakawa Chemical	hydrogenated rosin ester resin
Nisseki Polybutene HV300	P20 L23	Nippon Petrochemicals	polybutene
Antage W500	P20 L25	Kawaguti Chemical Industry Co.LTD	antioxidant
Tinuvin P	P20 L27	Ciba Specialty Chemicals	ultraviolet absorber
Vixtanex MML80	P21 L1	ExxonMobil	polyisobutylene

Pine Crystal KE100	P21 L3	Arakawa Chemical	hydrogenated rosin ester resin
Nisseki Polybutene HV300	P21 L5	Nippon Petrochemicals	polybutene
Antage W500	P21 L7	Kawaguti Chemical Industry Co.LTD	antioxidant
Tinuvin P	P21 L9	Ciba Specialty Chemicals	ultraviolet absorber
SIBSTER102T	P21 L21	Kaneka Corp.	styrene-isobutylene block copolymer
Pine Crystal KE100	P21 L23	Arakawa Chemical	hydrogenated rosin ester resin
Nisseki Polybutene HV300	P21 L25	Nippon Petrochemicals	polybutene
Antage W500	P21 L27	Kawaguti Chemical Industry Co.LTD	antioxidant
Tinuvin P	P21 L29	Ciba Specialty Chemicals	ultraviolet absorber
J-452HP	P22 L2	Idemitsu Petrochemical (Prime Polymer Co.LTD)	polypropylene
EMB2011P	P22 L2	JSR	ethylene-butene rubber
Tipaque A220	P22 L4	Ishihara Sangyo Co.ltd	titanium oxide
Dynalon 1320P	P22 L9	JSR	hydrogenated styrene butadien rubber
Nisseki Polybutene HV300	P22 L12	Nippon Petrochemicals	polybutene

Antage W500	P22 L14	Kavaguti Chemical Industry Co.LTD	antioxidant
Tinuvin P	P22 L16	Ciba Specialty Chemicals	ultraviolet absorber
Quintac 3421C	P22 L26-17	Zeon Corp.	styrene - isoprene block copolymer
Vixtanex MML80	P22 L32	ExxonMobil	polyisobutylene